



PATENTS

METHOD AND APPARATUS FOR COMPUTERIZED
HANDLING OF PROPOSALS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of co-pending application Serial No. 08/189,405, filed January 27, 1994, now pending. This application is a continuation-in-part of Application Serial No. 08/154,313, entitled "SCHEDULING AND PROCESSING SYSTEM FOR TELEPHONE VIDEO COMMUNICATION" and filed on November 17, 1993, which is a continuation-in-part application of Application Serial No. 08/067,783, entitled "VIDEOPHONE SYSTEM FOR SCRUTINY MONITORING WITH COMPUTER CONTROL" and filed on May 25, 1993, which is a continuation-in-part application of Application Serial No. 08/031,235, entitled "VIDEOPHONE SYSTEM FOR SCRUTINY MONITORING WITH COMPUTER CONTROL" and filed on March 12, 1993. The subject matter in all the above-identified co-pending and commonly owned applications is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates generally to the field of computerized telephone and video communication, and more particularly, to a communication traffic control system for providing video communication through a dial-up telephone system, for selectively interfacing members of plural groups, for example, wholesale buyer groups and vendor groups. Such a system may be used in a variety of applications, such as for directing and exchanging offers and responses at the wholesale level, between selective members of plural groups, for analyzing and compiling data, scheduling and implementing conferences, consummating sales and the like. It is currently contemplated that the present invention may be used, for example, in merchandising applications, including purchasing, selling, marketing or the like, educational conventions for

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1 medical doctors and other professionals, game shows, dating
2 services and so on.

3 BACKGROUND OF THE INVENTION

4 **[0003]** Over the years, integration of computer and telephone
5 technologies has brought many advances in the telecommunication
6 industry. Functionally integrating human operators with
7 telephone network capabilities, voice and data switching
8 capabilities, computer applications and databases, and voice
9 processing technology not only provides human operators with
10 immediate access to information from a wide variety of sources,
11 but allows them to intelligently process each call as well.
12 Telephone switches are linked with computers to coordinate
13 computer information and intelligence with call handling
14 capabilities to automatically add relevant data, as well as
15 facsimile, graphics, video or audio communication capabilities.
16 Select services or equipment such as automatic number
17 identification (ANI) or dialed number identification service
18 (DNIS) enhance calls and human capabilities by forwarding
19 identifying information preceding a telephone call, thereby,
20 eliminating steps otherwise performed by people to capture
21 information regarding the caller. For applications involving
22 large scale processing of calls, switch and host databases
23 automatically link calls with a caller's record, eliminating
24 the need for the caller to enter an identification number when
25 using a voice response system.

26 **[0004]** More revolutionary applications use ANI to
27 simultaneously pass both the call and the caller's current
28 record to an operator's telephone and terminal. This obviates
29 the need for a person to obtain, enter and receive the caller's
30 record from the database. Such advances have immensely
31 enhanced human capabilities for communication, data
32 manipulation and control functions.

33 **[0005]** Somewhat concurrently, rapid developments in
34 computer, telephone and video technologies have introduced the
35 concept of visual communications or video conferencing. In

1 particular, efforts at integrating these technologies have
2 gained enormous momentum in recent years, resulting, in part,
3 from a general desire in all industries to conserve time and
4 expenses, and thereby, maximize human efficiency and
5 productivity. The advent of videophones has enabled users to
6 visually communicate from remote locations. Many industries
7 are rapidly embracing the idea of video conferencing or visual
8 communication to eliminate escalating travel expenses.
9 Employees or customers in different places can take part in
10 interactive training sessions or seminars with no loss of time
11 for travel.

12 **[0006]** However, obstacles remain, particularly in
13 traditional areas of cumbersome communication. Still, with
14 developments, virtually every industry segment can profit from
15 interactive data sharing in real time with the added advantage
16 of face-to-face communication. Innovative technical advances
17 are fast satisfying promises of enhanced capabilities, thereby,
18 allowing users to share and manipulate images from remote
19 locations, such as pictures, graphs, maps or the like.

20 **[0007]** Technical breakthroughs in audio and video
21 compression technology make desktop video conferencing and
22 visual communication both economical and practical for everyday
23 business communications. To fully participate in video
24 conferencing, the user's equipment must communicate with
25 similar units, albeit, from different equipment vendors. The
26 International Telephone and Telegraph Consultative Committee
27 (CCITT) has defined a standard called H.261 (or "Px64")
28 detailing how video and audio signals are compressed and
29 decompressed for transmission across a common link. At
30 present, no one industry standard and format has been adopted
31 for video conferencing systems. Thus, the systems available on
32 the market are not always compatible. As a consequence, many
33 different types of video codecs (coders/decoders) are currently
34 in use. For example, the AT&T AVP CODEC is a three-chip set
35 that digitally processes high quality, full motion video images

1 and sounds that are compatible with the latest
2 videoconferencing standards.

3 [0008] At any rate, ongoing efforts at achieving
4 compatibility and providing compression schemes that can
5 transmit color images over POTS (plain old telephone system)
6 all over the world are in the offing. Approaches for
7 incorporating live-action, color video with standard voice
8 telephone lines via networks and modems are currently being
9 introduced. By using a suitable video capture board and a
10 modem, live video may be received and displayed on any 386 or
11 486 personal computer running Microsoft Windows™. The frame
12 rate depends upon the type of display and type of communication
13 hardware. For example, over a normal dial-up telephone line, a
14 computer with a VGA (video graphics array) display set at
15 32,000 colors, a 486 CPU and a 14.4 kbs (thousand bits per
16 second) modem can achieve a frame rate of 5 frames per second.

17 The link between the personal computers can be established in
18 several ways, for example, by a modem, LAN (local area
19 network), serial port and other high speed digital links.

20 [0009] To consider an example of cumbersome communication in
21 the merchandising industry, wholesale vendors or sellers of
22 goods typically spend many hours attempting to schedule
23 appointments with various buyers for different organizations,
24 travelling to and from the buyers' facilities, and waiting for
25 meetings, which may sometimes last only a short duration.
26 Unfortunately, considerably more time and expense is incurred,
27 in travelling to and from different facilities, than is
28 desirable. Moreover, as a practical matter, specific vendor
29 sales people are typically assigned to merchandise specific
30 goods and interact with specific buyers, resulting in a need
31 for more vendor personnel dedicated to particular buyers.

32 [0010] Moreover, in the event a specific seller wishes to
33 broadcast a special offering of a particular item to plural
34 buyers, for example, to dispose of an inventory of distressed
35 items, the seller must undertake considerable effort, such as

1 place an advertisement or otherwise initiate contact with
2 buyers. An advertisement is likely to be viewed only by random
3 buyers, thus, not always proving to be a reliable method of
4 soliciting offers from all possible buyers. Moreover,
5 initiating individual contact with a series of buyers, until
6 eventually securing a final sale, constitutes an arduous task.
7 Similarly, in situations where a buyer wishes to solicit
8 proposals from vendors for a particular item, the same practice
9 prevails.

10 **[0011]** Accordingly, the present invention recognizes the
11 need for a system to communicate with remote locations over a
12 widely distributed area, from other places, such as a central
13 location, for the applications discussed above as well as many
14 other diverse applications with similar requirements. In
15 particular, the present system recognizes the need for
16 directing and exchanging communications, such as offers and
17 responses, between select members of plural groups or sub-
18 groups, analyzing and compiling data relating to such members,
19 scheduling appointments, implementing face-to-face conferences
20 (in real-time), and consummating transactions and billing
21 relating to transactions between such groups.

22 23 SUMMARY OF THE INVENTION

24 **[0012]** Generally, the system of the present invention
25 involves traffic regulation and control for video communication
26 between a plurality of remote, widely distributed locations,
27 from a central unit, utilizing dial-up telephone facilities in
28 today's computer environment, and with voice quality lines.
29 Specifically, for example the dynamic graphics of telephonic
30 video (on standard analog lines and digital lines over
31 Integrated Services Digital Network (ISDN)) facilitate
32 videophone, while video still displays and digital lines
33 facilitate high fidelity (hi-fi) video displays along with
34 audio capabilities, all combined with the interactive
35 capability of computers to attain an effective commercial

product routing system with video vending capability.

[0013] The system of the present invention contemplates applications ranging from merchandising (including purchasing, selling, marketing or the like) to educational conventions for medical doctors and other professionals, game shows, dating services and so on. The present system is configured to direct and exchange communication traffic, for example, in the form of offers and responses, between selective members of plural groups or sub-groups, such as vendors and buyers, for analyzing and compiling data, scheduling appointments and implementing visual conferences, consummating transactions and the like. Selective routing of communication traffic from a central unit or controlled by the central unit effectively prevents information overload.

[0014] In one disclosed embodiment of the present invention, personal computers equipped with capabilities for providing either analog video (analog motion and analog high resolution freeze frame) or digital video or both, and speakerphones (or regular telephone instruments), for one-way or two-way communication are placed at each of a plurality of remote locations to communicate with a central unit that may include several communication and control stations also equipped with some or all of the same capabilities. As a part of traffic control operations, a video display (depicting motion and color) may be provided with graphics, audio and data signals, at each communication and control station, as well as, the remote locations. The personal computers may utilize well known image enhancement techniques to facilitate high resolution images for closer observation.

[0015] In accordance with one exemplary embodiment related to wholesale merchandising, a telephonic interface appointment scheduling and routing system includes a central traffic control system, independently managed by a third party and located remote from all vendors' and buyers' facilities. The central traffic control system schedules appointments and

1 routes offers and responses to and from select members of
2 plural groups, such as buyers and vendors, to expedite
3 traditionally complex purchasing operations. Routing of offers
4 and responses may also take place between members of sub-groups
5 of plural groups. Calls may be classified into types, for
6 example, a vendor with a special offering, a buyer responding
7 to a special offering, a buyer soliciting proposals, a vendor
8 responding with a proposal and a vendor or a buyer seeking an
9 appointment. Calls of the various types may involve some form
10 of qualification or approval. For example, access to the
11 system may be limited to qualified or registered entities.
12 Also, certain limitations may be imposed, such as calls
13 revealing one vendor's proposal to a competitor are inhibited.

14 **[0016]** In accordance with an example, a vendor may wish to
15 broadcast a special offering of a particular item to interested
16 buyers. The routing system analyzes buyer data, typically
17 acquired during registration, and compiles a list of buyers to
18 whom the broadcast is transmitted. Special buyers may be
19 specified by the vendors making the special offering. For
20 example, a vendor may designate special buyers from a list of
21 all participating buyers and vendors provided to each
22 registered member. From time to time, periodic updates on new
23 members may be circulated.

24 **[0017]** To facilitate equitable routing of special offerings
25 to all interested buyers, in situations, where there are only a
26 limited number of communication lines, the routing system may
27 include a random number generator to randomly select subsets of
28 buyers and may transmit the broadcast in sequence to each
29 subset. In some situations, the routing system may have the
30 capability to request and add additional communication lines in
31 the event a caller (vendor or buyer) desires concurrent
32 broadcast to all potential receiving parties. Of course, in
33 such cases the caller would incur the additional charges. A
34 numbering system may also be adopted, whereby broadcasts are
35 transmitted to subsets of a designated number of buyers (for

1 example, equal to the number of communication lines) in
2 rotating sequence. For example, a particular special offering
3 may be broadcast first to subset number one, then subset number
4 two and so on, while the next special offering may be broadcast
5 first to subset number two, then subset number three and so on.

6 **[0018]** A video recording of the offered item may be stored
7 in a video file server at the central location, thus, allowing
8 interested buyers to view the item prior to making a purchase.

9 Likewise, buyers may wish to solicit proposals for a
10 particular item from vendors qualified for designated
11 merchandise. Communication between the routing system and the
12 different buyers and vendors may be accomplished in a variety
13 of ways, as for example, by electronic-mail (transmission of
14 messages across a network between two desktop PCs), electronic
15 bulletin boards, on-line computer services (such as Prodigy® or
16 CompuServe®), facsimile, voice-mail or the like.

17 **[0019]** Vendors and buyers may directly communicate with the
18 central traffic control system to seek or change appointments
19 and update information with respect to appointments with
20 specific buyers. In accordance with one scenario, vendors may
21 call the central traffic control system and, upon
22 qualification, schedule appointments with specific buyers.

23 **[0020]** Appointments may be executed, on command, from a
24 buyer location or the central traffic control system.
25 Communication may be initiated conforming to the display
26 capabilities at the vendor site. That is, as disclosed, the
27 central traffic control system or alternatively, plural
28 coordinated such systems (located at one site or plural sites),
29 as well as, the buyer locations, incorporate multiple video
30 format capabilities along with a bridge or switch unit to drive
31 a display unit or monitor in a selected format in accordance
32 with the capabilities of the current vendor. As disclosed, a
33 single monitor may accommodate several formats or plural
34 monitors can operate selectively for concurrent multiple
35 displays.

1 **[0021]** A sequence of scheduled appointments may be
2 developed, as programmed along with intervals of video
3 communication. A record of the scheduled appointments is
4 maintained by the central traffic control system.

5 **[0022]** At the appropriate times, identification designations
6 for remote locations are provided in sequence, to address a
7 memory for fetching telephone numbers and/or graphic display
8 data also recorded when the appointments are scheduled.
9 Accordingly, in sequence, vendor locations are dialed up via
10 the public telephone system, either manually or automatically,
11 to obtain audio-video communication providing an image of the
12 vendor and the surrounding area at a specific vendor location.

13 **[0023]** Additionally, data associated with a vendor (or a
14 buyer) may be graphically displayed for convenient reference.
15 For each scene display with respect to a specific vendor, the
16 graphic display of pertinent data provided may, for example,
17 indicate the telephone number, the PIN number, the video
18 format, vendor rating, current vendor delivery status and so
19 on.

20 **[0024]** Special controls such as a mouse may be instituted
21 enabling manifestations at the vendor location to initiate
22 action or alter the display. Special operations also may be
23 commanded through the videophone, video still (high quality) or
24 high fidelity (hi-fi) video means either on manual initiative
25 or automatically by automatic apparatus.

26 **[0025]** A video recorder and/or video printer may be located
27 at a remote vendor location, central traffic control station or
28 buyer location for selectively or continuously obtaining a
29 video recording or video printout of displays.

30 **[0026]** Multiple coordinated central traffic control stations
31 may be employed to communicate with widely distributed vendor
32 or buyer locations with capabilities to route calls to each
33 other, in the event that all of the communication lines are
34 occupied and there is a considerable backlog of calls. Calls

1 may be routed to the next available operator (buyer), for
2 example, in the event appointments scheduled for a particular
3 buyer last longer than contemplated, or another buyer familiar
4 with that line of products may step in and handle the
5 appointment.

6 **[0027]** Under some circumstances it may be desirable to
7 prioritize calls. For example, appointments may be queued in
8 sequence, specific appointments may precede other routed
9 appointments in accordance with an override feature.

10 **[0028]** A record of the number of calls and related charges
11 incurred by the buyers for appointments is maintained, which
12 may be analyzed and ultimately rebilled to the vendors. Of
13 course, charges for scheduling are incurred directly by the
14 vendors. Also, a record of charges incurred for each caller
15 (buyer or vendor), depending upon the transaction initiated,
16 may be maintained and billed to each caller.

17 **[0029]** These as well as other features of the present system
18 will become apparent from the detailed description which
19 follows, considered together with the appended drawings.

20
21 BRIEF DESCRIPTION OF THE DRAWINGS

22 **[0030]** A complete understanding of the invention and its
23 advantages may be gained from consideration of the following
24 description of some disclosed embodiments taken in conjunction
25 with the accompanying drawings, in which:

26 **[0031]** FIGURE 1 is a block diagram of the system in
27 accordance with one embodiment, illustrating a telephonic
28 interface appointment scheduling and routing system;

29 **[0032]** FIGURE 2 is a more detailed block and pictorial
30 diagram of the system of FIGURE 1, illustrating the basic
31 components of the scheduling and routing system;

32 **[0033]** FIGURE 3 is a graphic representation of a portion of
33 the control panel of an element in the system of FIGURE 2;

34 **[0034]** FIGURE 4 is an exemplary format of an identification

1 card issued by the scheduling and routing system;

2 [0035] FIGURE 5 is a more detailed block diagram
3 illustrating the central traffic control system of the
4 scheduling and routing system of FIGURE 2;

5 [0036] FIGURE 6 is a logic flow diagram illustrating an
6 exemplary operation format of the system of FIGURE 5 for
7 automated qualification of callers, such as vendors or buyers;

8 [0037] FIGURE 7 is a fragmentary diagrammatic representation
9 of an exemplary storage cell for information specific to a
10 vendor, as may be formatted in the system of the present
11 invention;

12 [0038] FIGURE 8 is a fragmentary diagrammatic representation
13 of an exemplary storage cell for information specific to a
14 buyer, as may be formatted in the system of the present
15 invention;

16 [0039] FIGURE 9 is an exemplary form indicating a buyer's
17 request;

18 [0040] FIGURE 10 is an exemplary message transmitted from
19 the central traffic station to a buyer or a vendor.
20

21 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

22 [0041] As indicated above, a significant aspect of the
23 scheduling and routing system of the present invention is based
24 on recognizing that a dial-up public telephone system may be
25 effectively utilized for visual communication and conferences
26 between a plurality of remote locations regulated and
27 controlled by a central traffic control station. More
28 specifically, it has been recognized that for an effective
29 communication traffic control system, dial-up voice quality
30 lines, such as standard analog or digital lines, may be
31 employed variously in conjunction with videophone equipment,
32 computer facilities (personal computers (PCs) with video
33 capabilities) and various forms of telephonic equipment as
34 voice generators, auto dialers and D-channel or in-band

1 signalling apparatus.
2 **[0042]** To that end, a dial-up public telephone system TS is
3 illustrated in FIGURE 1 (upper center) affording effective
4 communication between a plurality of remote locations, for
5 example, locations L1-Ln representing vendor sites, and at
6 least one central traffic control station TIS. For
7 merchandising applications, the remote specific vendor
8 locations communicate with the central traffic control station
9 TIS, which is located remote from the buyers' and vendors'
10 facilities.

11 **[0043]** As a buyer example, XYZ Drug Company (a large chain)
12 may employ individual merchandise buyers responsible for
13 purchasing specific categories or sub-categories of items. For
14 example, one buyer (person) may be responsible for purchasing
15 body treatment products, such as skin and hair products,
16 another buyer may be responsible for purchasing vitamins and
17 over the counter medications, and yet another for purchasing
18 magazines and toys, and so on. The present system facilitates
19 selective transmission of communications between individual
20 buyers of plural buyer groups or sub-groups and qualified
21 members of plural vendor groups or sub-groups. For example,
22 special offerings by vendors for particular merchandise may be
23 transmitted only to buyers designated for purchase of the
24 merchandise. Likewise, buyer requests for proposals on select
25 merchandise are transmitted only to vendors designated to sell
26 the merchandise. Similarly, appointments for conferences may
27 be scheduled by vendors or buyers, although in keeping with
28 present merchandising practices, it is generally contemplated
29 that vendors would pursue scheduled appointments. However,
30 appointments are generally verified by buyers and appointment
31 execution calls are generally initiated by buyers, either
32 directly or automatically using autodialers.

33 **[0044]** A fully automated interactive voice response system
34 including ARUs (audio response units) may schedule appointments
35 for specific buyers and subsequently, load schedules for all

1 the buyers into a memory at the central traffic control
2 station. Alternatively, each specific buyer's schedule may be
3 transmitted to and loaded into a memory at each buyer terminal.

4 In some instances, vendors may communicate with the traffic
5 control station in any of a variety of ways (touch-tone,
6 electronic-mail, voice-mail, facsimile or the like) to make
7 and/or verify appointments and/or initiate the conferences, if
8 necessary. In addition, buyers may also communicate with the
9 traffic control system to approve appointments, or otherwise
10 update information in any of a variety of ways (touch-tone,
11 electronic-mail, voice-mail, facsimile or the like). During
12 visual conferences (in real-time), vendors may display their
13 goods, packaging or promotional displays and otherwise
14 effectively communicate with the buyers.

15 **[0045]** Along with a video signal display (real-time, color,
16 motion, freeze frame), under manual or computer control, audio
17 and data signals are employed to supplement and enhance
18 conferencing operations. In an exemplary system, each of the
19 vendor locations may incorporate several video speakerphones
20 (with one-way and two-way communication and echo canceling), a
21 camera (separate cameras also may be used to concurrently
22 provide images for a videophone and high quality still images),
23 switches, automatic dialing devices and computer memory
24 capability for initiating and responding to commands from the
25 central traffic control system, as well as, for initiating
26 various actions to accomplish change or to accommodate special
27 circumstances.

28 **[0046]** Conventionally, in merchandising applications, it is
29 appropriate for the vendors to incur communication expenses.
30 To facilitate this, a reduced rate service for long distance
31 outbound calling, for example MEGACOM, may be installed at each
32 of the buyers' facilities. Data on calls made by the buyers
33 may be obtained from the telephone company (e.g., AT&T
34 telephone company) and analyzed to isolate calls made to each
35 specific vendor and thus, the cumulative charges incurred may

1 be computed. For example, outgoing call activity may be
2 monitored at each of the buyers' facilities or the
3 independently managed, central traffic control site and
4 rebilled to specific vendors.

5 **[0047]** Alternatively, toll free or "800" services at each of
6 the vendor locations may be installed, and "800" number calls
7 initiated by the buyers may be billed to each of the vendor
8 locations. Further, the central traffic control system may
9 include a central detail service to contract for and install
10 telephone services at both the buyer and vendor locations, in
11 order to obtain and report on calls to and from the buyers, as
12 well as, centrally bill both buyers and vendors for all video
13 telephone communications.

14 **[0048]** Considerable other data may be developed and stored.
15 For example, the central traffic control station for each
16 buyer facility may maintain a record of outbound calls made by
17 all the buyers located at that facility including data, such as
18 the date and time of the call, the name of the buyer initiating
19 the call and the duration of the call. Accordingly,
20 information for each buyer may be subsequently compiled.
21 Likewise, the central traffic control station may maintain a
22 record of all the calls made by each vendor. For example, a
23 specific organization may wish to ascertain the number of
24 vendor calls to a particular buyer. Accordingly, the central
25 traffic control station may compile such data by comparing
26 vendor outbound calls with a database of buyers (including
27 information, such as telephone numbers, names etc.).

28 **[0049]** Furthermore, in some cases, a summary of each buyer's
29 efficiency may be recorded and provided to interested parties.

30 For example, a buyer's efficiency may be ascertained by the
31 number of video calls made by a specific buyer every week, the
32 average length of the video call, and other data displayed from
33 the database, namely, name of the vendor, names of the persons
34 participating in the call, and so on. For example, for a
35 particular buyer a summary could indicate that during the week

1 of March 20, 1993, forty calls were made for an average length
2 of twenty minutes. Detailed information may further indicate
3 that specifically at 10:00 a.m., on March 20, 1993, a first
4 appointment with Mr. John Blow, of ABC Fruit Company was
5 initiated, which lasted for 1 hour and 12 minutes, and at 11:12
6 a.m., a second appointment with Ms. Mary Smith of XYZ Cutlery
7 Company lasted 11 minutes and so on.

8 **[0050]** The central traffic control station TIS may
9 automatically place a call (for example, to broadcast a
10 proposal request from a buyer) to the appropriate vendor
11 locations, determined by a database of vendor locations
12 qualified (for example, as by specific category or sub-
13 category) for the particular merchandise for which the buyer
14 requests proposals. Likewise, when executing appointments, the
15 buyer may place a call to the appropriate vendor location,
16 determined also by a database associated with the particular
17 one of the vendor locations L1-Ln, with which the specific
18 buyer has an appointment scheduled. Alternatively, the buyer
19 may actuate an autodialer, such that the autodialer code number
20 (obtained from the central traffic control station database)
21 displayed on the buyer's video terminal connects him or her to
22 the appropriate vendor. In the event there are complications
23 or otherwise, the buyer may use a regular telephone or a
24 cellular telephone and manually dial the telephone number
25 displayed on the video terminal. It is currently recognized
26 that cellular transmission will ultimately provide dynamic
27 motion and high resolutions freeze frame displays.

28 **[0051]** The illustrated embodiment of FIGURE 1 shows the
29 independently managed, central traffic control system TIS
30 (right), located remote from the buyer systems illustrated at
31 BS1-BSn and the vendor terminals L1-Ln. Under control of the
32 central traffic control system TIS, communication is provided
33 through a dial-up public telephone system TS, between the
34 vendor terminals L1-Ln and the buyer systems BS1-BSn. The
35 buyer system BS1 is shown in some detail, specifically, as

1 including a telephone interface switch SW coupled to a control
2 computer CC for regulating a plurality of monitor stations V1-
3 Vn.

4 **[0052]** Preliminarily, considering an exemplary sequence of
5 operations with reference to FIGURE 1, assume that different
6 vendor terminals L1-Ln are equipped with videophone, video
7 still (high quality) or hi-fi video capabilities.

8 Alternatively, the vendors may have desktop personal computers
9 incorporating live-action, color video with standard voice
10 telephone lines via networks and modems.

11 **[0053]** Each buyer system BS1-BSn may be equipped with a
12 platform to accommodate select communications with various
13 vendors. Assume that a person at vendor location L1 wishes to
14 schedule an appointment with a buyer at buyer terminal V1. As
15 a result, telephone equipment at the location L1 is actuated,
16 either manually or automatically, prompting dial-up operations
17 to accomplish a connection from the vendor location L1 through
18 the telephone system TS to the traffic control system TIS.
19 Standard information, as the specific buyer with which the
20 vendor may be entitled to schedule an appointment may be
21 indicated by dialed number identification signals (DNIS) using
22 a capability readily available from the telephone system TS, as
23 for example on the so-called D-channel. It is to be noted that
24 while the D-channel apparatus provides one operational
25 configuration, some DNIS and/or ANI (Automatic Number
26 Identification) data signals can be received in-band without D-
27 channel apparatus. In any event, such signals may direct or
28 qualify communication under control of the system TIS. It
29 should be noted that DNIS and ANI signals can be used for
30 identification, whereby the control computer CC may fetch
31 identification data for graphic displays.

32 **[0054]** As another feature, an incoming line can be
33 designated at the central traffic control system, such as an
34 "800" line to receive calls from any telephone (pay-phone,
35 vendor location or the like) to prompt scheduling. For

1 example, a call on the "800" line may be answered by an
2 interface or an operator to schedule an appointment with a
3 specific buyer or vendor. The vendor might be specified by ANI
4 signals when calling from a specific vendor location.
5 Accordingly, a vendor can simply call the designated number
6 from any telephone to enter the scheduling program.

7 **[0055]** For scheduling purposes, PIN numbers (personal
8 identification numbers) are assigned to vendors. The PIN
9 number may be coded to indicate the specific organization that
10 a vendor is associated with. Alternatively, a database of PIN
11 numbers correlating to specific organizations may provide that
12 information. Entry of a PIN number by a vendor may qualify a
13 vendor for contact with a select buyer. Initiating contact
14 also may be controlled by a clock, for example, some
15 communications might be limited to the hours between 7 a.m. and
16 12 p.m. Additionally, other specifications may be designated
17 for specific groups of vendors. Thus, the system may be
18 configured such that DNIS and ANI communication features cross
19 reference with the clock, prior to answering. For example, if
20 the present time is between 5 p.m. and 7 p.m., only select
21 vendor calls are accepted. Some vendors may be accorded
22 priority status allowing them to schedule appointments for
23 select priority days, for example, Thursdays. Similarly,
24 priority status may be accorded to vendors offering distressed
25 merchandise at discount rates.

26 **[0056]** As described in detail below, a priority field stored
27 in the vendor's cell VC (FIGURE 7) may incorporate a use-rate
28 component, whereby extent of use by vendors may be controlled.

29 That is, FIGURE 7 illustrates exemplary storage cells of the
30 traffic control system TIS, wherein information specific to
31 each vendor and buyer, such as the telephone number, graphic
32 data, merchandise codes, schedules and the like may be stored.

33 For example, a vendor cell VC may be accessed by the telephone
34 number and address to obtain information such as the vendor PIN
35 number, telephone number, video format and so on. In some

1 formats it may be desirable to designate a rating for each
2 vendor indicating dependability, efficiency at delivering,
3 credit worthiness, specific buyer organizations with which the
4 vendor is registered etc.

5 **[0057]** Furthermore, to indicate an established relationship,
6 a designation indicating priority may also be stored to isolate
7 a particular vendor from a plurality of vendors selling similar
8 goods. Of course, the vendor cell VC may also indicate the
9 vendor's name, any relevant personal information, the company's
10 name, other persons participating in a conference and so on.
11 Similarly, data relating to the last purchase may also be of
12 importance to some buyers.

13 **[0058]** With the central traffic control system TIS
14 interacting with a plurality of widely distributed vendors and
15 buyers, a cross reference number identifying transactions with
16 other buyers may be of importance. Moreover, a record of the
17 buyers available and the time limit for each buyer is also
18 recorded. Similarly, the priority designation or status
19 accorded to a vendor for any of a myriad of reasons may
20 indicate, for example, that a particular vendor has distressed
21 merchandise for sale at discount rates. Also, vendors that are
22 not registered may be able to obtain appointments with buyers
23 or buyers' assistants for predefined short periods of time, for
24 example, five minutes.

25 **[0059]** To ensure effective and proper directing and exchange
26 of traffic, for example, special offers by vendors and
27 responses thereto by buyers, requests for proposals from buyers
28 and responses thereto by vendors, or the like, merchandise
29 codes that apply to each wholesale vendor and wholesale buyer
30 are recorded. The merchandise codes, discussed in more detail
31 below, regulate communication and avoid information overload,
32 as by providing an indication of the type of products that each
33 particular vendor or buyer is authorized to sell or buy.

34 **[0060]** It should be recognized that appointment schedules
35 also stored in vendor and buyer cells VC and BC (Figures 7 and

8), respectively, may be revised and updated on site by the traffic control system. For example, considering a situation where a last minute cancellation or change with respect to a schedule, special offering, request for proposal or proposal is necessary, changes, cancellations or updates to any of these transactions may be requested remotely by vendors and buyers alike. Moreover, vendors or buyers may wish to add pertinent information during visual conferences (real-time) simply for storage in the cells VC and BC or otherwise for subsequent processing.

[0061] To recap, under control of the traffic control system TIS, the dial-up public telephone system TS affords effective communication between the remote locations L1-Ln and the buyer systems BS1-BSn. Each buyer system located at a buyer's facility includes a telephone switch SW, through which incoming calls are received and outgoing calls are placed. Incoming data signals (DNIS and ANI) are passed to the internal control computer CC to select an appropriate one of the terminals V1-Vn to handle the call. For example, a station V1 might be assigned to buyer Tom Jones at XYZ Drug company, responsible for purchasing vitamins and over the counter medications. In addition, the computer CC also provides computer graphic signals to monitor station V1 supplementing the coupled television display, for example, to provide a composite display of a scene at location L1 along with appropriate graphic data.

[0062] To consider the operation of the total-system embodiment in somewhat greater detail, reference will now be made to FIGURE 2 in which previously identified components bear similar reference numbers. Preliminarily, it should also be recognized that certain basic components illustrated only at the central traffic control site TIS, such as memory, data storage, auto dialers, printers, VCRs etc., obviously may also be found at the buyer sites.

[0063] In the illustrated embodiment, the central traffic control system TIS directs and exchanges on-line and off-line

1 traffic between the vendor and buyer sites, in the form of
2 special offerings, proposals etc., as well as accepting
3 appointment requests from either the vendor or the buyer sites.
4 Appointment requests are generally initiated from the vendor
5 locations L1-Ln. Subsequently, buyers initiate communication
6 with specific vendors in accordance with scheduled appointments
7 at the appropriate times.

8 **[0064]** The central traffic control system TIS may initiate
9 contact with the vendor locations L1-Ln or the buyer locations
10 V1-Vn (in predetermined sequence or randomly) to afford
11 communication with the designated vendor or buyer. For visual
12 conferences, buyers may initiate contact with the appropriate
13 vendor locations L1-Ln also in sequence, such as when
14 scheduled, or in some instances randomly.

15 **[0065]** As illustrated in FIGURE 2, different vendor
16 locations may have different communication capabilities, as
17 represented by terminals VP1, VS1 for analog telephone
18 communication capabilities over standard analog lines (static,
19 videophone or PC), terminal VD1 for digital video capabilities
20 over ISDN lines, and CDPI for a combined terminal for analog
21 and digital communication capabilities. For illustration
22 purposes, FIGURE 2 shows one telephone (see CDPI) as exhibiting
23 both analog and digital communication capabilities.

24 **[0066]** The videophone terminal VP1 may be a unit available
25 from AT&T, such as the Videophone 2500, or one available from
26 MCI. A form of the digital video system VD1, for example, the
27 NCR PVS-70 system also is available from AT&T/NCR and is
28 recognized to provide high quality images. A static video
29 system VS1 may be AT&T's PICASSO™ still image phone, which
30 transmits "picture perfect" still color images and voice
31 simultaneously in just a matter of seconds. By pushing a
32 button on the PICASSO™ phone, a still image for a camcorder or
33 electronic camera may be captured and, by pushing another
34 button, that picture may be transmitted to another PICASSO™

1 phone. Such a video static system connects to standard analog
2 telephone lines and is compatible with a wide range of video
3 technology used in daily communication and industry standard
4 camcorders, electronic cameras, mouse devices, document
5 scanners and photo CD players. Accordingly, full-color images,
6 virtually of any type, size or dimension may be transmitted for
7 display on a TV, LCD panel, PC monitor or video monitor.
8 Images may be stored or printed using a PC interface.

9 **[0067]** FIGURE 2 also illustrates representative operator
10 (buyer) terminals V1-Vn, coupled to the traffic control system
11 TIS. Of course, all the operator terminals, as well as, the
12 central traffic control system may be compatibly configured.
13 Note that different videophone systems, rely on their own
14 proprietary codecs, sometimes with more than one as an option.
15 Generally, the operator terminals have the capability to
16 accommodate videophone operation along with telephone switching
17 and a variety of control functions.

18 **[0068]** The central traffic control system TIS includes a
19 computer control and interface system 28 coupled to several
20 operating devices including an auto dialer 30, a memory 32, a
21 "D" channel signal processor 34, an audio response unit (ARU)
22 36 and a caller test unit 38. These structures and their
23 interconnections are disclosed in greater detail below.

24 **[0069]** The computer control and interface system 28 also is
25 connected to a clock 40 and an operator station 42. The clock
26 40 may control scheduling operations as explained above. For
27 example, updates or changes to appointments, such as
28 cancellations, may be remotely implemented (for example, via
29 the central traffic control system) and forwarded to the
30 appropriate buyer in a variety of ways, such as facsimile,
31 electronic-mail, voice-mail or the like. The clock 40 may
32 likewise monitor time limitations, as when special offerings
33 and proposals are only valid for defined intervals of time.

34 **[0070]** With the live operator station 42, calls from vendors
35 seeking appointments, making special offerings, or

1 alternatively, calls from buyers seeking appointments or
2 proposals, may be transferred to a human operator, in the event
3 there are complications with the automatic response units or
4 message recording equipment or in the event callers are calling
5 from a rotary telephone. Some vendors or buyers may always
6 prefer telephone communication with a human operator at some
7 level.

8 **[0071]** As indicated above, flexibility to accommodate
9 various vendor equipment configurations is an important aspect
10 of the central traffic control system TIS and the operator
11 terminals V1-Vn. In that regard, it should be recognized that
12 even though only the buyer operator terminals V1-Vn are shown
13 coupled to a format switch 41 (lower center), the central
14 traffic control system TIS also has some form of a format
15 switch, shown as part of the video file server. The format
16 switch 41 selects a compatible one of analog video circuits and
17 static video circuits (on analog communication lines) and
18 digital video circuits (on digital communication lines) for
19 driving one or more monitors incorporating such specific
20 circuits. Each of the video monitors V1-Vn carry a camera C1-
21 Cn which may variously facilitate dynamic motion images and
22 still images. The format switch unit 41 can switch a single
23 analog line 39 (from analog lines AL1-ALn) to couple to either
24 videophone circuits or static video circuits or a digital line
25 (or lines from digital lines DL1-DLn) indicated at 39a to
26 couple to digital video circuits. Note that two lines are
27 typically required for digital video, one for audio and one for
28 digital data. Alternatively, the audio line may also serve as
29 the analog line.

30 **[0072]** A video recorder (VCR) also may be provided,
31 indicated generally at 51a, which may be set to record
32 continuously or intermittently, to provide historical data for
33 subsequent reference when conferring with a supervisor or
34 refreshing the memory with respect to specific features.
35 Alternatively, a video printer, also indicated at 51a, may be

1 used. On receiving a request command, for example from the
2 traffic control station TIS, the video recorder may record
3 compressed video signals of the display images. Of course,
4 continuous recording by the video recorder may be suspended
5 when desired.

6 **[0073]** At locations where more than one camera is
7 positioned, a single video recorder may be connected to the
8 multiple cameras via a switching device to control and sequence
9 the recordings from the cameras. A switching device such as
10 the intelligent sequential switcher manufactured by SONY, as
11 Model No. YS-S100, may be used to control and sequence multiple
12 recordings. In addition, plural video recorders, such as
13 separate video recorders for recording images transmitted on
14 digital or analog lines may be connected.

15 **[0074]** In some situations, select frozen frames of viewings
16 of vendor products or a specific time period of each viewing of
17 a vendor product may be recorded on a VCR or printed using a
18 video printer, for example two seconds (specific time period)
19 of a twenty minute appointment for each vendor location. Such
20 video printing may be obtained both by buyers and vendors.

21 **[0075]** Likewise, the operator terminal V1 (or the vendor
22 location or the central traffic control system), for example,
23 may incorporate a standard line printer for providing a printed
24 record of predetermined vendor communications, e.g., indicating
25 the date, time, location, period of appointment etc. Thus, a
26 detailed hard-copy record is available when desired.

27 **[0076]** The traffic control system TIS also includes within a
28 memory 32 or separate therefrom, a video EDI 35 for storing EDI
29 software (Electronic Data Interchange facilitating direct
30 computer-to-computer exchange of forms) or the like. It should
31 be recognized that the buyer terminals V1-Vn may also have EDI
32 software or the like stored in memory, by virtue of which, easy
33 access to and exchange of forms is facilitated. The traffic
34 control system TIS also includes a video file server 37, where
35 vendors and buyers may deposit a video recording of a product

1 being offered by a vendor or alternatively, desired by a buyer.

2 A block indicated at 45 and labeled "data storage" stores
3 standard system and network software. Selectivity logic,
4 indicated at 47, to prevent information overload selectively
5 directs communications between members of plural groups or sub-
6 groups, such as wholesale buyer and vendor groups. Operations
7 relating to the selectivity logic 47 are discussed below.

8 **[0077]** At this stage, consider an initial phase of a vendor
9 scheduling an appointment. In that regard, select vendors are
10 given advance notice of calling numbers and operating
11 instructions. Accordingly, consider an exemplary operation
12 sequence from the vendor telephone AT1 (FIGURE 2). Thus, the
13 vendor initiates dial-up operation with the central system TIS,
14 seeking to schedule an appointment with the specific buyer.
15 With a connection, a called number is indicated by Dialed
16 Number Identification Signals (DNIS) utilizing facilities
17 readily available and provided by the dial-up telephone system
18 TS through the so-called D-channel apparatus 34. Thus, the
19 central traffic control system has a basis for determining if,
20 by reason of dialing the called number, the vendor is entitled
21 to make an appointment with a specified buyer. A PIN number
22 entered by the vendor may also qualify a caller (vendor).

23 **[0078]** The dial-up telephone system TS also provides
24 Automatic Number Identification (ANI) signals indicating the
25 calling number on the so-called D-channel apparatus 34. In
26 various operational phases of the present disclosed embodiment,
27 such signals identify the remote vendor location L1 to the
28 central traffic control system TIS. Using such information,
29 the memory 32 may provide alternate forms of calling signals,
30 commanding a specific outgoing line from the telephone
31 interface and control unit 28 to afford additional
32 communication. Specifically, for example, ANI signals might
33 command various related data from the memory 32. Thus, an
34 appointment may be scheduled for execution at a later time as
35 explained in detail below.

1 **[0079]** As an alternative to simply scheduling an
2 appointment, assume that the caller is located at the buyer
3 terminal VP1 and wishes to initiate video contact with a
4 specific buyer. Upon attaining communication, the call may be
5 processed, for example, directly to the buyer terminal V1, at
6 which appropriate videophone communication is provided with the
7 vendor. In that regard, video monitors at the terminals V1-Vn
8 may be compatible to receive videophone signals through the
9 dial-up telephone system TS and the interface system 28 of the
10 traffic control system TIS.

11 **[0080]** Whether a conference is implemented as a result of a
12 direct call from a vendor, or as a result of a scheduled
13 appointment, in accordance with the present development, the
14 selected operator terminal V1-Vn (buyer terminal) is formatted
15 to a configuration compatible with the connected vendor
16 terminal. In that regard, the terminal AT1 (vendor) simply
17 accommodates audio and digital signals and is representative of
18 such terminals for use to schedule appointments, as in an ARU
19 interface. Alternatively, person-to-person communication is
20 available through the operator station 42.

21 **[0081]** The videophone terminal VP1 is representative of such
22 units to provide one form of audio/video communication with one
23 of the terminals V1-Vn. During such communication, the switch
24 41 is actuated to activate the videophone circuits to function
25 in cooperation with one of the monitors V1 or Vn. Thus,
26 compatible communication is implemented for each outgoing call,
27 utilizing data from the memory 32.

28 **[0082]** For communication with static video systems
29 (PICASSO™ units) as represented by the terminal VS1, the
30 switch 41 actuates the static video circuits for compatible
31 operation of a monitor V1 or Vn. Note that particularly
32 effective operations may involve combination formats, for
33 example, a videophone and a static video system (likely using a
34 single analog line). Specifically, with both of the
35 appropriate circuits operative, the camera and the monitor V1

1 may function in a videophone format to accommodate effective
2 personal communication between a buyer and a seller.
3 Concurrently, the camera and the monitor V1 may operate in a
4 static video format to effectively exhibit a vendor's product.
5 Additionally, a mouse 51 at the terminal VS1, controls a
6 cursor in the display of the monitor V1 further enhancing
7 interactive communication. A mouse, such as the one indicated
8 at 51 may also be provided at the buyer terminals V1-Vn.
9 Again, the switch 41 controls the operations to attain the
10 compatible format.

11 **[0083]** To further illustrate the possibilities, the terminal
12 VD1 is representative of high fidelity (hi-fi) telephonic video
13 systems using digital lines for higher resolution dynamic
14 displays. As with respect to the other formats, the switch 41
15 selectively actuates the compatible circuits, the digital video
16 circuits, to drive a selected combination of camera and
17 monitor.

18 **[0084]** It may be seen that the video platforms of terminals
19 V1-Vn offer considerable flexibility in accommodating multiple
20 audio-video formats. Convenience is served by the multiple
21 format capability of the camera along with the video monitor
22 V1-Vn.

23 **[0085]** Recapitulating, the terminal V1 has been described
24 for communication with the various equipments at locations to
25 include a video location for display. In addition to the
26 display, each of the terminals V1-Vn incorporates a handpiece
27 or equivalent, and a substantial control panel that may be in
28 the form of a telephone pad or embodied as part of a personal
29 computer keyboard. In any event, the control panel for each
30 terminal V1-Vn includes the current controls for an operative
31 video format, plus dedicated controls relating to the disclosed
32 system. In that regard, in the interest of avoiding undue
33 complications, only a fragment of the representative panel 80
34 for the terminal V1 is shown in FIGURE 4.

35 **[0086]** Generally the panel 80 affords considerable control,

1 including the use of keypad tone signals (DTMF) to perform
2 control operations at both ends of a communication.
3 Specifically, the fragment of the panel 80 of FIGURE 4
4 incorporates a traditional twelve-button telephone pad 82,
5 bearing the numerals "1" through "0" along with the symbols "*" and "#." The designated buttons each generate a distinct DTMF
6 signal in accordance with extensive practice, which signals are
7 communicated to all connected terminals.
8

9 **[0087]** Various other specific controls are provided on the
10 panel 80. An on-off button 84 controls outgoing audio. A
11 toggle 86 controls the volume of incoming audio. An on-off
12 switch 88 controls video at the terminal. A pair of toggle
13 switches 90 and 91, respectively, control zooming and panning
14 camera operations. A push button switch 93 serves as an
15 interrupt for locking onto the current display (high quality
16 freeze frame) for closer observation or to record data and in
17 some cases higher resolution images for closer observation at a
18 later time, for example, by use of a video printer. In
19 addition, another toggle switch 95 controls tilting camera
20 operations and a push button 97 advances the freeze frame for
21 subsequent observation or reverses it back to a dynamic
22 display. A push button switch 99 serves to manually terminate
23 the call. A control switch 101 regulates resolution of the
24 display. Finally a signal lamp 103 illuminates to indicate the
25 next appointment. Generally, by using the telephone keypad 82
26 on the panel 80, various control functions can be accomplished
27 as detailed in the parent patent applications identified herein
28 under the caption "CROSS REFERENCE TO RELATED APPLICATIONS" and
29 incorporated herein by reference.

30 **[0088]** One form of control involves video coordination. For
31 example, in accordance with a program, a conference might be
32 initiated in a videophone format with the terminal V1 (FIGURE
33 2). Accordingly, the videophone circuits are active to drive
34 the video monitor V1. At some point, assume the conference
35 participants decide to add a static video communication. A

1 command of "52" in touch tones on the pad 82 (see FIGURE 3)
2 initiates a series of operations. Specifically, another line
3 connection is established by actuating the autodialer 30
4 (FIGURE 2), then static video circuits are actuated. At the
5 terminal V1, the static video circuits are actuated to drive
6 the monitor V1 that may involve another monitor or split image
7 operation. Separate displays for dynamic and still video may
8 be used, such that a buyer at one monitor can confer with a
9 vendor, speaking face-to-face through the camera and that
10 monitor, while the vendor exhibits fine details of a product on
11 a second monitor in a still image. Of course, in sequences of
12 such still images, views can be changed and areas highlighted
13 with a cursor controlled by the mouse 51.

14 **[0089]** As an alternative to actuating the static video
15 format, the conferees may elect to go digital. A command "53"
16 from the panel 46 sets the requisite steps in motion. The
17 autodialer 30 dials up a digital connection, then using that
18 connection, the switch 41 actuates the digital video circuits
19 to drive one of the monitors V1-Vn. Note that with enhanced
20 hi-fi video communication, the assumed videophone communication
21 might best be terminated.

22 **[0090]** In view of these examples, it will be apparent that
23 the operator at the terminal V1 has substantial control,
24 including the ability to go from one video format to another.
25 Of course, such operations presume that the vendor has the
26 requisite capacity, which may be indicated in the graphic
27 display as treated in greater detail below.

28 ✓ **[0091]** From the above descriptions, it is apparent that the
29 disclosed system utilizes videophone technology in combination
30 with other telephone system technology along with computer
31 control and graphics technology to accomplish effective
32 scheduling and processing of traffic for visual conferences.

33 **[0092]** ✓ As explained above, the exemplary central traffic
34 control system TIS functions to initiate outgoing calls as well
35 as receive and process incoming calls. To resume with the

1 explanation of an incoming call from a vendor to schedule an
2 appointment, when the telephone interface 28 (FIGURE 2)
3 receives an incoming call, it may be connected to either the
4 operator station 42 or the audio response unit 36.
5 Concurrently, incoming data signals (DNIS and ANI) are provided
6 to the "D" channel processor 34 for control and/or information.
7 For example, from the memory 32, the control computer 28 may
8 fetch the identification of the vendor location L1 embracing
9 one or more of the terminals VD1, etc. With such signal
10 represented data, one or more buyers are identified with whom
11 the vendor or vendor organization is entitled to schedule an
12 appointment. However, to schedule an appointment, a vendor may
13 use virtually any form of telephone instrument or terminal
14 including any of the units AT1, VP1, VS1, VD1 or CDP1 as
15 illustrated in FIGURE 2. The unit AT1 is sufficient either for
16 a telephonic-computer interactive call or a direct operator
17 call (station 42) to schedule an appointment or the like.

18 **[0093]** Initially, as described above, inbound calls for a
19 buyer, initiated by vendors, may be received through the
20 interface system 28 (FIGURE 2, upper right) for scheduling
21 appointments or directly accommodated at a buyer location by
22 the interface telephone switch SW (FIGURE 1, center left)
23 including the format switch 41 for visual conferences. The
24 format switch 41 may incorporate a variable codec for analog
25 lines AL1-ALN and digital lines DL1-DLN. For analog lines, a
26 video CODEC along with computing capability may take the form
27 of an AVP1000 video CODEC chip set as available from AT&T.
28 Essentially, the CODEC chip set accomplishes videophone
29 operation and consists of a video encoder, a video decoder and
30 an internal system controller. The format switch unit 41 is
31 shown as coupled between a standard analog line and a line on
32 ISDN. Upon receiving a call from a videophone unit, the format
33 switch unit 41 selects the appropriate line, that is, the
34 analog line. Alternatively, upon receiving a call from a high
35 fidelity video (digital), the format switch unit 41 selects a

1 digital line. Also, as described above, during visual
2 communication (real-time), a buyer may make switches, e.g.,
3 from transmitting dynamic images over a single analog line to
4 high resolution freeze frames. The high resolution freeze
5 frames may be viewed on large 14 inch monitors. Further, the
6 images may be manipulated from either end, to view the freeze
7 frame image concurrently.

8 **[0094]** In the operation of the system embracing the
9 exemplary formats as treated above and below, a record is made
10 for billing purposes. That is, a billing memory unit BL
11 (FIGURE 1) and a standard printer (treated below) are
12 controlled by the computer control 28, recording all
13 transactions in relation to billing charges. Such data can be
14 variously processed at different times. Basically, the concept
15 involves formulating billing data, so that at least a part of
16 the calls made to a vendor, for example, can be rebilled to
17 that vendor.

18 ✓ **[0095]** Considering the dial-up telephone system TS (FIGURE
19 2) in somewhat greater detail, in arrangement, the inter-
20 exchange carrier (e.g., AT&T) provides comprehensive data on
21 calls specifying: phone number calling, phone number called,
22 date, time, length of call (period), billing data and so on.
23 Test or look-up operations are then performed with reference to
24 a vendor database. Accordingly, portions of the charges (with
25 or without mark-ups) are rebilled (with appropriate
26 identification to the vendors). Such operations may be
27 particularly effective in relation to "private" networks, e.g.,
28 the so-called SDN (software defined network), SDDN (software
29 defined data network) which are compatible with ISDN
30 operations, or a combination of the two service offerings (SDN
31 with SDDN). Note that AT&T's SDN is a virtual network service
32 which offers an organization the ability to build a private
33 corporate network within the AT&T public network. A customized
34 database contains information on various sites affiliated with
35 the organization (i.e., the service organization installs a

1 "private" network service at many different business entities)
2 as well as features and routing information. Moreover, SDN
3 encompasses voice, analog data, digital data and image
4 transfer. SDDN is a feature of SDN and is most often installed
5 in conjunction with SDN. A combination of the two provides the
6 capability of combining all the different sites for network
7 management and billing. Note that both buyers and vendors may
8 wish to extend the scope of the network of participants by
9 installing at least one similar mode of video in their
10 branches, plants and/or customers.

11 [0096] Essentially, coordinated with the control computer 28
12 in the system TIS, reapportioning and rebilling options are
13 executed by the billing data unit utilizing storage capacity of
14 the memory 32 or a separate billing data memory.

15 [0097] To this point, detailed consideration has been
16 primarily directed to the treatment of incoming calls to the
17 system TIS. However, as explained, certain modes involve the
18 placement of outgoing calls under either manual control or
19 automatic operation. Such operations next are treated in
20 detail.

21 ✓[0098] As a result of control operations, to implement a
22 sequence of scheduled conferences, the computer control and
23 interface system 28 (FIGURE 2) at the central traffic control
24 site or the control computer CC at the buyer site (FIGURE 1)
25 may address, for example, the memory 32 to fetch the telephone
26 number for an outgoing call, e.g., a vendor location L1. The
27 telephone number is supplied from the memory 32 (or a memory at
28 the buyer location) to the control computer CC which actuates
29 an auto dialer, similar to auto dialer 30, to provide the dial-
30 up signals on an off-hook line provided to the dial-up
31 telephone system TS. Typically, at the vendor location L1, a
32 dedicated or other line for video operations will accept the
33 communication.

34 [0099] As an alternative to manual calls, the system may
35 operate under computer control to enable a sequence of

1 appointments. During the operation, the control computer CC
2 (FIGURE 1) fetches telephone numbers for remote locations from
3 the memory 32 (or a memory on site) in sequence, actuates the
4 auto dialer 34 accordingly, and assigns the resulting
5 connections as scheduled. After a session between a particular
6 buyer and vendor has concluded, the control computer CC
7 terminates the connection in favor of the next waiting
8 connection. A blinking light 103 (FIGURE 3) or alternatively,
9 a graphic display of "Five more minutes for the next
10 appointment" may be exhibited to the caller to indicate a next
11 appointment. The operation may result in sequential displays
12 that have been scheduled at the particular one of the terminals
13 V1-Vn.

14 **[0100]** (Different selling and buying companies may be
15 registered with the central traffic control system TIS. At
16 registration, central traffic control system TIS may issue an
17 identification card with a check digit for qualification to
18 each representative of the selling or buying company (FIGURE
19 5). An exemplary identification card (embodied for display) is
20 indicated at 211. For example, assume that XYZ company has
21 four vendor representatives, all located at vendor location L1
22 equipped with analog capabilities only. Further assume that
23 the telephone number for that location is (212) 555-5555.
24 Accordingly, the traffic control system TIS may assign a
25 identification number and store the following information under
26 that identification number in memory: Jones, Roger, XYZ Toy
27 Company, Analog System, Telephone number (212) 555-5555,
28 Registered to interact with EFG Company (central station number
29 - (310) 666-6666), no priority, IJK Company (central station
30 number - (414) 777-7777), priority with buyer no. 3, Thursday
31 appointments may be offered to vendors with priority status.
32 At registration, each vendor and buyer fills out a subscription
33 form or otherwise provides the central traffic control system
34 with specific information, such as the nature of the
35 merchandise they are designated to sell or buy. This

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1 information may be provided with reference to an established
2 list of merchandise codes. The designated merchandise codes
3 assist the selectivity logic 47 in making routing
4 determinations to avoid information overload. Similarly,
5 vendors and buyers seeking appointments are qualified on the
6 basis of these merchandise codes and limited to making
7 appointments only with authorized persons.

8 **[0101]** To make an appointment, a special offering or a
9 proposal in response to a buyer request, the vendor may
10 initiate dial-up operations with the central traffic control
11 system TIS. For such calls, the ARU 36 may provide voice cues
12 to the vendor and prompt touch tone input of responses as
13 described above. A single ARU may be used for different
14 organizations, alternatively, different ARU's may be used for
15 different large organizations. The ARU's may include voice-
16 mail capabilities for individual buyers. After recording all
17 the information pertaining to a special offering or proposal,
18 the central traffic control system provides reservation or
19 identification numbers. For example, callers may be queried
20 via the ARU if calling to cancel an appointment or supplement a
21 special offering or proposal. If a call is merely to cancel an
22 appointment, the vendor would only need to enter the
23 appointment number. Likewise, if the call is simply to report
24 that a sale for a special offering has been consummated, the
25 vendor may only need to enter an identification number.

26 **[0102]** Note that live operators also may take information
27 from vendors and access the traffic control computer TIS to
28 enter appropriate request data processed similar to the
29 automatic features of the system in the event vendors are
30 calling from a rotary telephone or for other reasons.
31 Additionally, the live operators may transfer calls to an ARU
32 to enable vendors to leave voice-mail messages.

33 **[0103]** The traffic control system TIS may provide schedule
34 or other data to individual buyers via facsimile, either
35 automatically or upon request. Alternatively, schedule or

1 other data may be provided to individual buyers by downloading
2 data onto a computer at the buyer's location typically in batch
3 mode overnight. Recent changes to appointments or special
4 offerings and proposals may be displayed on the buyer's
5 terminal (real-time) or forwarded by electronic-mail.

6 **[0104]** At the central traffic control site, which may
7 service numerous business entities, several audio response
8 units (ARU) may be used in conjunction with several groups of
9 live operators. To accommodate large numbers of calls,
10 automatic call distributors (ACD) may be utilized to route
11 calls where the different business entities are identified by
12 DNIS.

13 **[0105]** It should be recognized that video recordings on
14 specific merchandise may be stored at the video file server 37
15 for viewing by buyers and sales may be consummated without any
16 visual conferences between vendors and buyers.

17 **[0106]** Also, it should be recognized that the buyer
18 terminals disclosed herein may be used by retailers to sell
19 products directly to the persons having units similar to the
20 vendor units described herein in their homes. In such a
21 scenario, ANI may be used to identify a particular household
22 calling, and DNIS may be used to identify a particular product
23 of interest.

24 **[0107]** As indicated above, the traffic control system TIS
25 incorporates structure for a wide variety of communications
26 through the dial-up telephone system TS. FIGURE 5 illustrates
27 a more specific exemplary form of the system TIS. A telephone
28 interface T12 (upper left) accommodates a multitude of line
29 connections to the dial-up public telephone system TS (FIGURES
30 1 and 2) accommodating two-way communication with various
31 capabilities as treated above.

32 **[0108]** The interface structure T12 (FIGURE 5) accommodates
33 the placement of outgoing calls by an auto dialer T14
34 controlled by a computer T16 incorporating substantial memory.
35 Auto dialers are well known in the telephone arts functioning

(1 to place calls in response to digital instructions.) As the
2 source of such digital instructions, along with others, the
3 control computer T16 comprises a substantial computing
4 capability, functioning to control telephonic traffic in
5 various communication forms through the telephone interface
6 structure T12. Traffic is controlled, both for servicing and
7 interconnecting remote terminals at both vendor and buyer
8 locations, e.g., buyer locations BS1-BSn (FIGURE 1) and vendor
9 terminals, e.g. terminals L1-Ln.

10 [0109] The control computer T16 also is connected to an
11 audio response unit T18 for vocally cuing and otherwise
12 interfacing remote stations through the telephone interface
13 structure T12. Again, various forms of audio response units
14 are well known in the telephonic arts for verbalizing cues,
15 receiving digital signals and performing some processing. In
16 that regard, the audio response unit T18 may incorporate some
17 dictionary capability or may rely on the control computer T16
18 for an extended dictionary of words to be vocalized.

19 [0110] The control computer T16 also is connected to receive
20 signals from the telephone interface structure T12 through a
21 "D" channel circuit T20. For example, the "D" channel circuit
22 receives ANI and DNIS signals indicative of calling and called
23 station numbers as explained above. Essentially, the "D"
24 channel circuit T20 provides call related information to the
25 control computer T16 in accordance with well known techniques
26 of the telephonic arts.

27 [0111] Recapitulating to some extent, it may be seen that
28 the control computer T16, along with the above-mentioned
29 structures, has substantial capability to interface with remote
30 terminals. However, under certain conditions, manual
31 communication also may be desired. Accordingly, as explained
32 above, an operator station T21 is coupled to the computer T16
33 to accommodate a human interface. The operator station T21 may
34 take the form of a CRT terminal with graphics display
35 capability and various controls (FIGURE 5) implemented through

1 the control computer T16.

2 [0112] As indicated above, to accomplish the traffic control
3 function, the computer T16 has substantial computing
4 capability, specifically, for purposes of control, storage
5 management, delivery, scheduling and interconnecting remote
6 stations. For convenience of explanation, in FIGURE 5, several
7 operating components that could be integrated in the computer
8 T16 are separately illustrated. Such separate illustration
9 also facilitates the operating explanations. Specifically,
10 separate storage capacity is illustrated in the form of a
11 buyer-vendor storage unit T24 and a buyer-vendor/merchandise
12 code storage unit T26. The storage units T24 and T26 are
13 addressed by the control computer T16 to provide data that is
14 processed along with other data to control and facilitate on-
15 line and off-line communications between buyer and vendor
16 terminals.

17 [0113] As suggested above, communication between the various
18 vendors and buyers involves substantial control and regulation
19 along with limitations, thus, the term traffic control is
20 deemed appropriate. In that regard, a qualification unit T28
21 is coupled both to the control computer T16 and the storage
22 units T24 and T26. Essentially, the qualification unit T28
23 receives identification and limitation data to qualify buyers
24 (and vendors for select individual communications. The storage
25 unit T26 is coupled directly to the computer T16, along with a
26 billing data memory T30 and a printer T32 for operation as
27 mentioned above.

28 [0114] Summarizing the extensive treatment above, the
29 present system variously implements both online and offline
30 communication as between vendors and buyers. The communication
31 is considerably enhanced by video displays. Accordingly, a
32 video file server T34 is coupled directly to the telephone
33 interface structure T12 and to the control computer T16. A
34 monitor station T36 is similarly coupled, as for select time or
35 call monitoring.

1 [0115] In view of the preliminary description of the
2 structure (FIGURE 5) a comprehensive explanation of the system
3 now may be expressed by assuming particular situations and
4 describing typical operating sequences. Accordingly, assume
5 the structure of FIGURE 5 is coupled as the traffic control
6 system TIS in the system of FIGURE 2 for controlling and
7 regulating select communications between vendor and buyer
8 terminals. (In that regard, a system of merchandise
9 classification is used to enhance the selectivity of
10 communication to prevent information overload. Generally,
11 merchandise is classified in accordance with a decimal system,
12 somewhat equated to the channels of commerce for various goods.
13 For example, a component of such a classification is as
14 follows.

15
16 CHART A

<u>Merchandise</u>		<u>Decimal Code</u>
Body Treatment		470000
Skin		471000
Sun Cream		47260
Prevent & Protect		471230
Water Resist		471234
Tanning		471235
Cream		471300
Moisture		471310
Cleansing		471320
Hair		472000

37
38 [0116] In accordance with the exemplary classification,
39 "body-treatment" merchandise carries the code "470000". More

1 explicit classifications of such merchandise carry additional
2 decimal indicators. For example, as indicated above, water-
3 resistant, sun protection treatment would be identified by the
4 code "471234". Accordingly, entire ranges of merchandise are
5 classified and coded to control and regulate communication
6 traffic in accordance herewith.

7 [0117] Generally, preliminary inquiries, offers for sale and
8 requests for proposals all carry merchandise codes for
9 selectively identifying potentially interested vendors or
10 buyers. As a further element of classification, buyers or
11 vendors also may be assigned specific codes, for example,
12 designating a business primarily as, supermarkets, department
13 stores, drug stores and so on.

*Subclass
Identification*

14 [0118] As detailed below, the operation of the system will
15 be treated as it regulates and controls video communication,
16 for example, selectively between vendors and buyers, to
17 expedite traditionally complex purchasing operations. In that
18 regard, the embodiment treats six types of telephone calls.
19 Specifically, primary calls are classified in accordance with
20 the following chart.

21
22 CHART B

<u>Type Call</u>	<u>Nature</u>
"A"	Vendor with special offering
"B"	Buyer responding to special offering
"C"	Buyer with Request for Proposal (RFP) →
"D"	Vendor responding to RFP
"E"	Vendor seeking appointment
"F"	Buyer seeking appointment

33
34 [0119] Typically, calls of the various types involve some
35 form of qualification or approval. For example, access to the

1 system typically will be limited to qualified or registered
2 entities. Also, certain limitations will be imposed on such
3 entities. For example, calls that would reveal one vendor's
4 proposal to another vendor are inhibited. Also, it may be
5 desirable to limit calls from buyers accessing information
6 related to another buyer. Of course, specific forms of
7 limitations and qualifications may be implemented depending
8 upon specific applications. However, in accordance with the
9 disclosed embodiment, the types of calls set out above, all
10 involve some form of qualification. The qualifications are
11 generally performed by the qualification unit T28 (FIGURE 5)
12 utilizing information derived from a call correlated with
13 reference data from the storage units T24 and T26. In that
14 regard, the logic for the qualification unit T28 may be
15 implemented in accordance with the flow diagram of FIGURE 6 as
16 will now be considered.

17 **[0120]** In the disclosed embodiment, the qualifications for
18 buyers and vendors are somewhat similar. Specifically, the
19 tests for a calling vendor are:

- 20
- 21 Is the calling station registered as a vendor (or buyer)? ✓
 - 22 Can the caller give a proper PIN number (Identification ✓
 - 23 Number)?
 - 24 Is the vendor qualified for the designated merchandise? } gnd
 - 25 Is the vendor approved for an identified buyer or buyers? }
 - 26

27 **[0121]** The tests for calling a buyer are quite similar. To
28 consider the logic embodied in the qualification unit T28
29 (FIGURE 5), reference will now be made somewhat concurrently to
30 FIGURES 5 and 6. With the occurrence of an incoming call
31 through the telephone interface structure T12 (FIGURE 5), "D"
32 channel signals are supplied through the circuit T20 to the
33 control computer T16. As a result, the computer T16 addresses
34 the buyer-vendor storage unit T24, using the call number of the
35 originating terminal (ANI). Of course, in other applications

1 DNIS signals may be similarly employed. The operation is
2 illustrated by a block T40 (FIGURE 6). Addressed by the
3 calling number, the storage unit T24 (FIGURE 5) supplies
4 representative signals indicating: first, that the calling
5 terminal does belong to a registered buyer or seller, whether
6 the entity is a buyer or a seller, and the identification
7 number (PIN) for the entity. The operation of consulting the
8 storage unit T24 or look-up table is illustrated by a query
9 block T42 in FIGURE 6.

10 **[0122]** If the calling terminal number is not located,
11 indicating an unregistered caller, the qualification unit T28
12 (FIGURE 5) actuates the computer T16 for appropriate control.
13 Specifically, the audio response unit T18 may be prompted to
14 provide a termination message or the operator station T21 may
15 be actuated for a human interface. Such alternatives are
16 represented in FIGURE 7 by the block T44.

17 **[0123]** For calls originating from a registered terminal, the
18 qualification unit T28 (FIGURE 5) stores the pertinent data,
19 i.e., buyer or seller and reference PIN. The operation is
20 illustrated in FIGURE 7 by the block T46.

21 **[0124]** With the determination of a properly registered
22 calling terminal, the computer T16 actuates the audio response
23 unit T18 providing a verbal cue for an identification number
24 (PIN). The operation is illustrated in FIGURE 7 by the query
25 block T48. If the caller enters keypad digital information
26 indicating an invalid PIN, or makes no entry at all, the
27 operation again proceeds to the block T44 for termination or
28 transfer of the call as explained above. With the entry of a
29 valid PIN, the operation proceeds to store the personal
30 identification number as indicated by a block T50.

31 **[0125]** The qualification unit T28 (FIGURE 5) next functions
32 in cooperation with the computer T16 driving the audio response
33 unit T18 to cue the caller for the type of call and the
34 merchandise code, see blocks T52 and T54 (FIGURE 6)
35 representing such operations. Although such operations are not

1 detailed in FIGURE 6, it is to be understood that improper
2 responses or the lack of a response will transfer the process
3 to the function of block T44, as illustrated, to terminate or
4 transfer the call. On the contrary, if appropriate information
5 is received, the qualification unit T28 (FIGURE 5) receives and
6 stores the requested information. Consequently, the unit T28
7 contains: the caller's PIN number, the call type and the
8 merchandise code. That data is then tested within the
9 qualification unit T28, against reference data, in a process
10 step as illustrated by the query block T56 in FIGURE 7. The
11 details of the test are treated in somewhat greater detail
12 below; however, as illustrated in FIGURE 7, if the tests are
13 not successful, the process again proceeds to the termination
14 block T44; otherwise, the process proceeds to a block T58 to
15 implement the substantive communication of the call.

16 **[0126]** The final test of the call involves operation of the
17 qualification unit T28 (FIGURE 5) in conjunction with the
18 storage unit T26. That is, for each buyer and vendor, the unit
19 T26 stores merchandise codes and, in some instances, other
20 special information. For example, typically, vendors may be
21 denied access to certain information. For example, a vendor
22 would not have access to the type calls: "A" (a special
23 offering of another vendor), "D" (another vendor responding to
24 an RFP) and so on. However, exceptions are possible and in
25 that regard it is simply important to appreciate that special
26 situations may be stored in the unit T26.

27 **[0127]** Returning to the routine situation, as indicated
28 above, each buyer and vendor is associated with specific
29 merchandise codes. In that regard, merchandise codes not only
30 facilitate and expedite communication but additionally, charges
31 and billing data (for storage in the memory T30) may be based
32 on active merchandise codes for a subscriber.

33 **[0128]** Pursuing a specific example, assume a caller,
34 identified as a vendor and otherwise qualified is pursuing the
35 presentation of a special offering. Further assume that the

1 calling vendor is associated only with hair products (Chart A,
2 code 472000). However, assume that the caller identifies the
3 "merchandise of interest" to be a water resistant sun skin
4 product, code 471234. Thus, the identified merchandise code
5 does not coincide with the caller's registered merchandise
6 code. In such a case, the processing is halted with the
7 consequence that the call is either terminated or transferred
8 to an operator. At this stage, likely operation would involve
9 referring the call to an operator. Thus, the qualification
10 unit T28 concludes the test by assuring that the entity being
11 represented by a call is authorized for access with respect to
12 the identified codes.

13 **[0129]** Once a caller has been identified, the control
14 computer T16 (FIGURE 5) functions primarily in conjunction with
15 the video file server T34 to implement the communication. Of
16 course, in instances where an appointment is sought, as
17 described in detail above, the function of the video file
18 server T34 may be relatively nominal. Note with regard to
19 appointments, that a caller may simply request an appointment
20 immediately within call types "E" and "F". That is, within the
21 concept of obtaining an appointment, a caller may simply seek
22 to speak with a particular vendor or buyer representative
23 immediately.

24 **[0130]** To consider the specific operations, assume that the
25 exemplary caller is a vendor with a special offering, i.e.,
26 call type "A". As a specific example, the caller may represent
27 a vendor entity dealing in distressed merchandise holding a
28 considerable volume of hair shampoo packaged for women, i.e.,
29 merchandise code "472147". With the merchandise codes stored,
30 the control computer T16 actuates the video file server T34
31 along with the audio response unit T18 to receive a video
32 presentation of the merchandise, that is, the hair shampoo.
33 Typically, the vendor will have organized the presentation
34 prior to making the telephone call so that the merchandise can
35 be variously demonstrated and various information including

1 pricing etc. expressed in the video presentation. Thus, an
2 effective record of the video presentation is stored in the
3 file server T34 essentially in the form of a sales presentation
4 for the hair shampoo, that is, product code "472147".

5 **[0131]** With the completion of the video record, the control
6 computer T16 actuates the storage unit T26 to isolate all
7 buyers associated with the product code "472147" identifying
8 hair shampoo. With the list of buyers identified and a video
9 presentation recorded, the subsequent operations involve
10 communicating the video presentation to the select group of
11 buyers. In accordance with the disclosed embodiment, the
12 identified buyer group is notified of the availability of the
13 demonstration. Thereafter, qualified buyers may establish
14 communication (call "B") through the telephone interface
15 structure T12 (FIGURE 5) to receive the stored video
16 presentation from the file server T34. Various specific
17 arrangements may be involved. The central traffic system may
18 maintain a record or log of all the buyers accessing the video
19 file server, which may be provided to the vendor, upon request.
20 A record of the time (provided by the clock) spent by each
21 buyer in viewing a video presentation may also be maintained.
22 For example, a specific buyer may terminate the video after
23 viewing it for only a few minutes, while another buyer may view
24 the entire video presentation. The vendor may request such
25 information to determine buyers' reactions to the special
26 offering, for marketing or other reasons.

27 **[0132]** In some situations, it may be particularly
28 advantageous for buyers to receive early notice of a special
29 offering by a vendor. Accordingly, it may be desirable to
30 implement a rotational order scheme or a random operation for
31 determining the sequence in notifying buyers. Specifically, a
32 random number generator may be incorporated in the control
33 computer T16 for ordering the list of buyers for notification.

34 **[0133]** Notices to buyers or vendors also may vary
35 considerably, depending upon individual programming

1 considerations. In some situations, vendors may provide a
2 special list of buyers or alternatively, exclude specific
3 buyers. All buyers and vendors are provided with a list of
4 participating members of the network, at registration.
5 Periodic updates of new members may be circulated from time to
6 time.

7 **[0134]** In accordance with the disclosed embodiment, the
8 control computer T16 simply actuates the auto dialer T14 to
9 establish telephonic communication with buyers after which the
10 audio response unit T18 notifies the buyer. Alternatives
11 involve the utilization of facsimile or the like capability or
12 various forms of electronic mail may be incorporated for
13 utilization. In any event, the select group of buyers is
14 notified that the presentation on a hair shampoo packaged for
15 women is accessible by interfacing through the telephone
16 structure T12. Responding buyers (call type "B") are qualified
17 as described above, then coupled to the video file server T34
18 to receive the video presentation. Thereafter, interested
19 buyers may directly contact the vendor, typically for further
20 video communication. Thus, the foundation for a transaction is
21 completed rapidly and effectively with substantial
22 communication of the goods involved and related considerations.

23 **[0135]** Another possibility involves type "C" calls, whereby
24 a buyer distributes a request for proposal. Again, various
25 communications may be accomplished to a select group or sub-
26 group of vendors based on merchandise codes. To consider a
27 specific form of communication in accordance herewith, after
28 qualification, a buyer might use video communication to notify
29 vendors with a graphic such as one illustrated in FIGURE 9.
30 FIGURE 9 illustrates an exemplary buyer request form providing
31 specific information of the merchandise. Blank forms may be
32 stored in a forms directory (e.g. menu-driven) or the like on
33 each buyers terminal. Thus, when making a request for
34 proposals, a buyer may simply access a blank form and enter the
35 specific information. Essentially, a merchandise code number

v.v
0.9

gms
2

1 "472361" is supplied, indicating the specific product as also
2 identified in the graphic. After the notice has been sent to
3 vendors, a message as represented in FIGURE 10 may be
4 transmitted to the buyer from the central traffic control
5 system TIS. Note that a check digit may be supplied.
6 Likewise, vendors may access blank forms, similar to the
7 exemplary buyer request forms, to indicate special offerings.

8 **[0136]** Following receipt of a request for proposal,
9 interested vendors may submit a video presentation as described
10 above. Alternatively, vendors may be invited to call for an
11 appointment or otherwise communicate their proposals to buyers.
12 Thus, the system affords considerable flexibility in
13 selectively communicating product information between buyers
14 and sellers using video formats.

15 **[0137]** In view of the above description, it will be apparent
16 that numerous operating formats, programs and layouts may be
17 accomplished using a wide variety of videophone equipment in
18 cooperation with computing and telephone apparatus. As
19 indicated above, the disclosed embodiments afford some
20 arrangements; however, the scope hereof should not so confined,
21 rather the scope hereof should be in accordance with the claims
22 as set forth below.

23